What is claimed is:

1. A method for interpolating binary pictures by using context probable values in order to reconstruct the binary picture having low resolution as the picture having high resolution through an up-sampling, said method comprising the steps of:

dividing said binary picture into a plurality of blocks;

extending the block to a size of the picture presented in the up-sampling;

10   detecting a position of said block on the binary picture;

bordering the block according to the detected block position;

forming a context template for an interpolating pixel in the bordered block;

15   getting indexes of the context template and obtaining a probability of said interpolating pixel from a context probable table through a use of the context indexes; and

deciding a value of the interpolating pixel based on the

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context probable value of the interpolating pixel.

2. The method of claim 1, wherein said binary picture is divided into the blocks of 8x8.

3. The method of claim 1, wherein the position detecting

5 step detects whether or not said block is positioned on the leftmost or uppermost side of the binary picture.

4. The method of claim 1, wherein said bordering step comprises the steps of:

copying the uppermost row of a current block and thereby

10 forming a top border in case that said current block is the uppermost block of inputted binary picture, and copying known pixels positioned on the right or left of pixels for unknown values on said top border;

constructing a left border by using the leftmost column

15 of the current block in case that said current block is the leftmost block of the inputted binary picture and copying

known values of pixels situated on the upper or lower side of

pixels for unknown values on said left border;

determining a corner border as '0' or '1'; and

forming the top border with the lowermost row of upper

5 adjacent block, the left border with the rightmost column of

left block neighboring to the current block and the corner

border with a rightmost and lowermost pixel value of the left

or upper block adjacent to the current block, in case that

said current block is not the uppermost block and the leftmost

10 block of the inputted binary picture.

5. The method of claim 1, wherein the context template

forming step constructs the context template for a part having

no pixels by copying neighboring pixels or determining a

voluntary value, in case that it is formed in the bordered

15 block the context template for a pixel corresponding to the

current block and the context template for a pixel of the

rightmost column or lowermost row.

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picture up-sampled;

a second step for executing a bordering on the top and left side of respective extended blocks;

a third step for constructing a context template for each

5   of pixels for unknown values in the extended blocks and calculating context indexes;

a fourth step for reading and getting, from the context probable table, probable values of an object interior for the respective pixels through a use of the context indexes gotten

10   in said third step;

a fifth step for detecting whether or not the probable value for the object interior is more than that of an object exterior; and

a sixth step for determining a value of a current pixel

15   as a pixel of the object interior if the probable value for the object interior is more than that for the object exterior and determining the value of the current pixel as a pixel of the object exterior if the probable value for the object interior is not more than that for the object exterior.

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9. The method of claim 8, said method in a use of the context template including the steps of:

executing a horizontal interpolation by performing the third step to the sixth step through a use of a horizontal context template; and

performing a vertical interpolation by executing the third step to the sixth step through a use of a vertical context template.

10. The method of claim 8, wherein the bordering process of said second step comprises the steps of:

detecting whether or not a current block is the uppermost block of the binary picture information;

bordering the uppermost row of the current block on the top of the current block in case that it is the uppermost block, and bordering the lowermost row of a block neighboring to the top of the current block upon the current block in case that it is not the uppermost block;

checking whether or not the current block is positioned

on the leftmost side of an object;

bordering the leftmost column of the current block on the left side of the current block in case that it is situated on the leftmost side, and bordering the rightmost column of a

5   block neighboring to the left side of the current block upon the left side of the current block in case that it is not situated on the leftmost side; and

bordering a left and upper corner of the current block.

11. The method of claim 8, wherein said third step copies

10 values of adjacent pixels and thereby interpolates, in case that pixels constituting the context template are deviated from the picture in gaining the context template of a interpolating pixel.

12. The method of claim 8, wherein said third step forms

15 the context template for a part having no pixels by copying neighboring pixels or determining a voluntary value, in case that the context template for a pixel of the rightmost column

or lowermost row is constructed in gaining the context template of said interpolating pixel.

13. The method of claim 8, wherein said interpolating method is performed in a frame unit or a VOP unit.

5   14. The method of claim 10, wherein the corner bordering step borders a corner of the current block with the rightmost and lowermost pixel value of its left and top block if a block exists on the top and left side of the current block, and borders the corner with the exterior of the object if the

10   block does not exist on the top and left side of the current block.

15. An apparatus for interpolating binary pictures by using context probable table in order to reconstruct the binary picture having low resolution as the picture having

15   high resolution through an up-sampling, said apparatus comprising:

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block dividing means for dividing said binary picture

into blocks of a given size;

bordering means for executing a bordering for blocks

outputted from said block dividing means;

5   horizontal interpolating means for interpolating

horizontally pixels of the blocks outputted from said

bordering means; and

vertical interpolating means for interpolating vertically

pixels of the blocks outputted from said horizontal

10   interpolating means.

16. The apparatus of claim 15, wherein said bordering

means performs the bordering with pixels brought from an

adjacent block of a current block.

17. The apparatus of claim 15, wherein said bordering

15   means comprises:

block position detecting means for receiving an address

of the current block on the inputted binary picture and

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detecting a position of the current block;

copy means for receiving the position of the current

block outputted from said block position detecting means and

bordering the blocks of a given size on the top, left and

5   upper side and left side of the current block; and

memory for storing the blocks from said copy means and

outputting the neighboring blocks of the current block to said

copy means.

18. The apparatus of claim 15, wherein said horizontal

10   interpolation means and said vertical interpolation means

comprise:

context calculating means for receiving the bordered

blocks and calculating context indexes for respective pixels;

probable table referring means for receiving the context

15   indexes from said context calculating means, and reading and

getting probable values corresponding to the index on/from the

context probable table stored previously;

probability detecting means for detecting whether or not

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the probable value for an object interior read and gotten

on/from said probable table referring means is more than 0.5;

and

interior/exterior interpolating means for interpolating

5   an object interior value or an object exterior value for the

respective pixels on the bordered block in response to a

detection result signal of said probability detecting means.

19. The apparatus of claim 24, wherein said bordering

means copies its own leftmost column and uppermost row on the

10 top and left side of the block to thereby perform a bordering,

for the blocks situated on the object.

20. The apparatus of claim 24, wherein said copy means

borders with the rightmost and lowermost pixel value of its

left and top block if a block exists on the top and left side

15 of the current block, and borders with the exterior of the

object if the block does not exist on the top and left side of

the current block.

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21. The apparatus of claim 24, wherein said probability

detecting means compares the probable value of the object

interior read and gotten from said probable table referring

means with 0.5; controls so that said interior/exterior

5   interpolating means interpolates the respective pixels of the

bordered block as the object interior value, in case the

probable value of the object interior is more than 0.5; and

controls so that said interior/exterior interpolating means

interpolates the respective pixels of the bordered block as

10   the object exterior value, in case the probable value of the

object interior is less than 0.5.

22.   The apparatus of claim 24, wherein said bordering

means copies its own leftmost column and uppermost row on the

top and left side of the block to thereby perform a bordering,

15   for the blocks situated on the object.

23. An apparatus for interpolating binary pictures by

using context probable table in order to reconstruct the

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binary picture having low resolution as the picture having

high resolution through an up-sampling, said apparatus

comprising:

VOP extracting means for dividing said binary picture

5 information into VOPs;

bordering means for extending the VOP outputted from said

VOP extraction means to a size in the up-sampling and

performing a bordering;

horizontal interpolating means for horizontally

10 interpolating pixels of the VOP outputted from said bordering

means; and

vertical interpolating means for vertically interpolating

pixels of the VOP outputted from said horizontal interpolating

means.